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OBSERVATIONS

ON

THE NATURE, CAUSES, AND TREATMENT

OF

CHOLERA MORBUS.

FOR THE INFORMATION AND GUIDANCE OF
THE INHABITANTS OF STROMNESS, THE
RESIDENT COUNTRY CLERGY,
AND OTHERS.

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OBSERVATIONS, &c.

A BOARD of Health, consisting of the Magistrates, Members of the Council, and their Clerk, together with the Clergy, Medical Practitioners, and some others of the most respectable Inhabitants of the town, amounting in all to fifty, was, on the 2d December 1831, constituted at Stromness. At a Meeting of the said Board, held in the Council Chamber on the 6th December, it was determined that the town be divided into districts, and that a certain number of the Members of the General Board be appointed as a District Board, to watch over each division, and to give in their reports weekly, at a Meeting of the General Board, to be assembled for the purpose of receiving such. Each of the resident Medical Gentlemen belonging to the place had a certain number of districts placed under his care.

For the information and guidance of the visiting members of the respective district boards of the inhabitants of the surrounding country, and others whom it may happen to concern, the following remarks have been drawn up.

Cholera Morbus, or Mort de Chien, that formidable and very fatal epidemic which has so long spread its direful ravages over our widely extended Asiatic possessions,—which has, at a later period, carried off thousands and tens of thousands of the inhabitants of Continental Europe,—and which, there are too good grounds

for believing, has at length made its entrance sure on the shores of Albion,—is a disease that shows itself under a diversity of forms, and very different degrees of severity ; and this, the Medical Members of the Board would particularly urge attention to ; for, whilst alarm is justly excited by the disease under its more formidable aspect, ushered in, in general, by a sense of extreme weakness, giddiness, general coldness and trembling, soon succeeded by vomiting and purging of a fluid different in appearance at different times,—severe cramps, beginning in the extremities, and thence extending to almost every part of the body,—intense thirst,—burning sensation in the stomach and bowels,—countenance collapsed, and of a livid hue,—eyes suffused, and sunk in their sockets,—together with a weak and fluttering pulse, at times indeed altogether imperceptible,—it ought to be borne in mind that, not unfrequently for days even before the complaint has fully developed itself, the patient will labour under its incipient form, attended with a sense of languor, nausea, diarrhœa more or less severe, slight oppression in the regions of the thorax and abdomen, occasionally impeding respiration, and exciting an almost constant desire to yawn. Whenever these symptoms are discovered to exist by the visiting members, they must not be treated slightly, or overlooked, however slight. A report to the effect should be instantly made to the Medical Gentleman attached to the particular district in which such may occur, so that the person or persons thus affected, may, as speedily as possible, be brought under treatment ; since the disease may, by the early application of the proper remedies, be arrested in this stage of its progress.

The cause or causes of this epidemic, both predisposing and exciting, more especially the former, have given rise to much discrepancy of opinion, and still continue veiled in much obscurity. Whether to be sought for in the bowels of the earth, or the more elevated regions of our atmosphere, or in both, we stop not here to inquire. Whatever the nature of such causes may be, they seem to exert a direct influence upon the heart and arteries, the power of which, except, perhaps, in the milder forms of the disease, appears to be from the first very alarmingly weakened, and consequently, in proportion to the early establishment of reaction and free determination to the surface of the body in the treatment of this disease, will our success be found to be ; and this the Board desire strongly to impress on the minds of its visiting members and on the public ; convinced as they are that even an hour's loss of time, in some of the more severe cases of Cholera, would place the unfortunate sufferer beyond the reach of aid. Further, as regards the causes of this disease, it may be received as fully established, that wherever Mort de Chien makes its appearance, a predisposing cause is present, during the existence of which the disease is excited or roused from a latent to an active state, by causes, which, at another period, would have exerted little or no effect upon the system at all, or would have given rise to diseases of a different description. It is therefore to be hoped, that such causes, amongst which may be reckoned filth of every description, debauchery in the fullest acceptation of the term, irregularity in diet, want of necessary clothing, &c. (which it is the duty of the visiting members of the Board to remedy so far as in them

lies), will be allowed the full importance which, under such circumstances, they have been found to merit, and that they will not be thought lightly of, or overlooked by those who may be appointed to investigate them, and who hitherto may have been accustomed to witness their existence in full force, without a dread of consequences.

Straw, which forms the common bed of the lower class of the inhabitants both of town and country, and which, from being seldom shifted, not unfrequently becomes so offensive as scarcely to be approached by those unaccustomed to its fetid exhalations, the Board particularly invite the attention of its visiting members to. All such should be carefully removed, and replaced by fresh straw or heath, the bed places having been previously cleaned out and whitewashed. The visiting members should daily visit their respective districts, and unweariedly caution against the abuse of spirituous or fermented liquors, and the use of acid drinks, such as butter-milk or sour beer. As articles of diet, cabbage, stale broth, greasy substances of every description, raw fruits, such as apples, &c., and, in short, whatever is calculated, or may have been found so by the individuals themselves, to give rise to acidity and flatulence at stomach, ought to be most religiously abstained from. The diet should be plain and of a nourishing description, such as fresh beef, mutton, poultry, fresh fish, bread, potatoes, and such like. Every unnecessary exposure to cold and wet should be avoided, more especially during night; and, for the purpose of preserving an equal temperature on the surface of the body, the Board would recommend flannel to be worn next the skin, which of itself has

been known very materially to arrest the progress of Cholera. Attention to the personal cleanliness of individuals, as well as to the cleanliness and thorough ventilation of their apartments, the Board would strongly recommend to the notice of its visiting members. The excitement of unnecessary alarm amongst the inhabitants should be carefully guarded against ; and every measure, on the other hand, had recourse to, tending to inspire them with confidence in the means which may be adopted to meet the exigencies of the occasion. In short, whatever is calculated to weaken or depress, acting either on the mind or body, or on both, should be obviated and removed by every possible means.

The attendance of a medical man ought, if possible, to be procured at the very commencement of the attack. But as this may not at all times be obtainable, and as delay in cases of this hydra epidemic often deprives the sufferer of every chance of recovery, the Board would particularly urge upon its visiting members, and upon the inhabitants of the town in general, a strict attention to the following directions :—

Upon an attack of Cholera, the patient should be placed in the horizontal posture ; which posture, it is of the utmost importance, should be observed throughout the whole course of treatment, at all events until reaction shall have been established ; syncope or faintness being less likely to take place than in the erect posture ; and it is consequently better calculated to favour the success of the remedial measures had recourse to. Free venesection, regardless of the appearance of weakness, ought next to be had recourse to, proportioned, of course, to the age, habit of body,

and natural strength of the individual affected. Such, in every instance where the blood can be procured in a full stream, will afford very decided relief; but to ensure this, it must be resorted to upon the onset of the disease.

The application of heat to the surface of the body the Board would place next in order; which, indeed, if ready to be brought into immediate action, should not be interrupted by the bleeding, as both can be carried into effect at the same time, and have, in fact, their respective influence over the disease thereby increased. The Board can, from experience, give decided preference to the steam bath, as the most speedy and effectual method of applying heat to the surface of the body, and which can be obtained in full force, even to raise blisters, in the course of from fifteen to twenty minutes, by means of an apparatus of very simple construction; one or more of which will be placed in charge of Mr Jeremiah Sinclair, Apothecary to the Board, who will furnish the necessary instructions respecting its use. As such, however, may not at all times be procurable, from being in use, or from other causes, the Board recommend that a quantity of soft sand be at all times in readiness, which, when required, is to be heated to a high temperature in a common pot, and, when so heated, is to be thickly spread over the surface of a bed, covering a space sufficient for the size of the patient.

A thin blanket being thrown over the sand, the affected person is to be laid upon it; and the body being enveloped with the blanket, an additional quantity of the hot sand is to be applied round the sides, and over the regions of the thorax and abdomen,

as likewise over the extremities. Sand is recommended as being readily procured, and as possessing the property of retaining heat for a very considerable time.

Mustard sinapisms, in the list of external stimulants, very deservedly rank high, and may be prepared, by covering the surface of a common poultice with powdered mustard-seed. They are in general recommended to be applied over the regions of the stomach and heart, and to the extremities, which ought in every instance to be attended to. Their application likewise amongst the whole course of the spinal column, and in an especial manner to the head, the hair having been previously removed, the Board would strongly recommend, such recommendation being founded upon the personal experience of some of its members, who have had opportunities of extensively treating the disease on the shores of the eastern hemisphere, and who have repeatedly experienced the most powerful stimulant influence exerted over the whole body by the application of a strong sinapism to the head, and that too after other means had been tried, with, comparatively speaking, little effect. The sinapisms may be, and in the more severe cases ought to be applied, whilst the patient is in the steam bath, or covered with the hot sand.

Frictions over the surface of the body, with stimulating liniments, have been found useful; and, for this purpose, the Board would more especially recommend a liniment composed of olive oil and sulphuric acid; the proportion of the acid from a half to a third, according to the effect it is found to exert on the surface of the body, which will be different in different

individuals, and in the same individual at different periods of the disease; a strength of liniment that would at first produce little or no effect, being, on the establishment of reaction, sufficient even to destroy the cuticle.

As an internal stimulant, the Board, acting on the experience of some of its members, most strongly recommend the use of hot ale, with the addition of a wine glass full of spirits to the English pint, together with a little grated nutmeg, or a few drops of one of the essential oils, three ounces of which is to be given at a time, and repeated according to circumstances.

Often, when the very name of stimulating medicines, such as æther, ammonia, assafoetida, &c., had violently increased gastric irritability, have some of the members of the Board witnessed the above mixture grasped at and speedily swallowed by the parched and suffering patient, with a thousand protestations of gratitude, and often with most decidedly beneficial effects. The stimulant effect of the spirit is wonderfully increased by the addition of the ale. No description of internal stimulant, the Board feel confident, will be found more effectual, few indeed so much so, and none more grateful to the patient.

Where extreme irritability of stomach exists, calomel, in scruple dozes, administered in the form of powder, and washed down with a drachm of laudanum and fifteen drops of the oil of peppermint or cajeput in two ounces of ale, and repeated as may be deemed necessary, some of the members of the Board have experienced very happy effects from, as a remedy in this disease. Where such may be considered neces-

sary, it will be supplied by Mr. Sinclair, who has been furnished with directions on the subject.

The repeated exhibition of stimulating enemata the Board can, from experience, strongly recommend ; and for this purpose, ale and spirits, mixed in the proportions above stated, they would give the preference to, six ounces of which should be thrown up at a time, and retained for ten or fifteen minutes, by the application of a heated cloth pressed against the anus.

As to the employment of other means than those above enumerated, the Board would advise such to be postponed until the patient shall have been seen by a medical man.

Before concluding, the Board would again urge upon the attention of the public the danger arising from delay in cases of Cholera. Invariably will the chances of success from the remedies employed be found to diminish in proportion to the length of time that the disease had existed before such were resorted to ; and they would therefore strongly impress upon the minds of their visiting members, and others, who may be called upon at times to apply such, that the more quickly and simultaneously the means above recommended are brought into action, the more likely are they to prove successful. Indeed, if stimulants are not early employed, and of a sufficiently powerful description to overcome the resistance offered to free circulation by the gorged state of the internal organs, which is invariably present in Cholera, and thus establish reaction and determination to the surface, it is evident they must do harm, especially in the more severe cases ; for, in as far as they increase the action of the heart and arteries, without enabling them to

overcome the resistance above noticed, and thus propel the blood to the surface, in so far do they increase the loaded state of these organs.

Finally, the Medical Members of the Board are of opinion that the disease is not in general of a contagious nature, but that under particular circumstances (such as in cases where a number labouring under it may be crowded together in low dirty situations) it may at times become so. They would therefore urge upon their visiting members the propriety of a strict attention to such, and of their having persons so situated removed as speedily as possible from their habitations, to those places appointed by the Board for their reception.

TO E. STEWART, Esq.

CHAIRMAN OF THE CENTRAL BOARD OF HEALTH,
&c. &c. &c.

Stromness, Orkney, Dec. 21, 1831.

SIR—My having had some experience in the treatment of Cholera Morbus, under its every form, on the shores of India, will, I trust, be admitted as a sufficient apology for the liberty I have thus taken in addressing you on the subject. Along with this I forward for your perusal a set of instructions, which I have drawn up for the information and guidance of the visiting members of the Stromness Board of Health, the resident country clergy, heads of families, and others.

This I was the more particularly induced to draw up, in consideration of the widely detached situation of several of the Orkney Islands, most of them being without resident medical advice, and the inhabitants of such islands, owing to the state of weather, being for days, not unfrequently indeed for weeks together, during the winter season, left entirely to their own resources.

My principal object, however, in at present addressing you, is to bring under your notice and consideration the following observations respecting the second stage of, or consecutive fever to, an attack of Cholera, which, according to the reports of Drs Russel and Barry, has of late, in Russia, proved much more fatal than the first stage, or primary attack of the disease. From *post mortem* examinations, and

other sources, I have been induced to consider this fever as arising from the injury sustained by the internal organs upon the onset of the disease, and, so far as my experience goes, it occurred much less frequently where early and free venesection had been had recourse to, than in cases where this operation had been delayed to a later period, or had been but sparingly carried into effect. I have frequently at one bleeding, on the commencement of an attack of Cholera, the patient being young and vigorous, drawn off from three to four pounds of blood, when I could succeed in procuring such, the more severe symptoms yielding as the blood continued to flow, and the stimulants employed for the purpose thus the more readily effecting reaction.

My friend Mr Bremner, at present Surgeon of the H. C. ship *Orwell*, has been in the habit of carrying venesection to a still greater extent, in the treatment of this disease. During a recent and very severe attack, of which he was himself the subject, he lost no less a quantity than six pounds of blood within the short space of three hours and a half, to which he mainly attributes his recovery.

In every instance where I found that upon the orgasm being removed the disease did not terminate in almost immediate convalescence, I considered the second stage, or consecutive fever, to have commenced, and instantly began the use of hyd. submur., in doses of from ten grains to a scruple, according to circumstances, with from five to ten grains of ext. hyosc. or, in those cases in which there existed much irritation of stomach, and the head but slightly affected, opium, proportioned to the state of stomach and to the effect

the calomel exerted on the bowels. Whenever the stomach would admit of it, some antimonial preparation was combined. This was repeated twice, thrice, or oftener, during the day, as the urgency of the case appeared to demand.

Camphorated mercurial ointment was rubbed in at the same time over the regions of the abdomen and liver, and on the inside of the thighs. In the more obstinate cases, the patient was likewise caused to inhale frequently, fumes arising from hyd. submur., thrown on a heated plate of iron, having the surface of the body at the same time exposed to the fumes of the oxyd. hyd. ciner. Occasionally the ext. hyosc. or opium, whichever the patient was using in combination with the calomel, was omitted, and a sufficient quantity of the ext. colocynthid. comp. or pulv. scam. substituted, so as to ensure two or three intestinal evacuations daily, which in general afforded considerable amelioration of symptoms.

Where I succeeded in establishing ptyalism, the case in general terminated favourably. The powers of calomel over membranous and glandular inflammation, both acute and chronic, and in an especial manner over increased vascular action of the abdominal viscera, whether arterial or venous, are now indeed almost universally admitted. In very urgent cases I have found it necessary to apply, in addition to the means above enumerated, blisters over the stomach and liver, and to keep up, even for days together, general irritation on, and determination to, the surface of the body, by enveloping the individual with heated flannel, which had been previously sprinkled over with nitric acid and brandy. This not unfrequently relieved, almost immediately, the oppression

about the præcordia usually present in such cases, and indeed afforded such a general alleviation of symptoms as to have a repetition of it often solicited by the patient.

The system having been brought under the influence of mercury, the judicious exhibition of purgative medicines, and a due attention to diet, were the only other means that I in general found necessary.

Venesection was at any period of the disease had recourse to when considered necessary, as were likewise blisters and cold applications to the head, together with mustard sinapisms or blisters amongst the course of the spine.

The diarrhœa which occasionally follows an attack of this disease, and which appears chiefly dependent upon a debilitated and relaxed state of the mucous membrane of the intestines, I have found more successfully combated by from ten to fifteen drops of copaiba balsam, administered twice or thrice a day, in about two ounces at each time of some light bitter infusion, than by any other means. The nitrous acid I have likewise experienced good effects from in such cases, and the occasional exhibition of from one to two grains of opium.

Some of the remedial measures that I have recommended, both in the first and second stages of Cholera, will be found to rest upon my own authority alone. I beg leave to assure you, however, that my having carefully observed their effects, and repeatedly derived from their employment very decided benefit in the treatment of such cases, could alone have induced me to urge them upon your consideration.—I have the honour to remain, SIR, your very humble servant,

WILLIAM HAMILTON.